



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/779,373

02/17/2004

Marc Schaepkens

133348-1

7897

39290

7590

05/23/2008

DUANE MORRIS LLP

505 9th Street

Suite 1000

WASHINGTON, DC 20004-2166

EXAMINER

KRUER, KEVIN R

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

05/23/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/779,373 | <b>Applicant(s)</b><br>SCHAEPKENS ET AL. |  |
|                              | <b>Examiner</b><br>KEVIN R. KRUER    | <b>Art Unit</b><br>1794                  |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4-8 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-8 and 11-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/5/07 has been entered.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 6-8, 11, 13, and 14 are rejected under 35 USC 103(a) as being unpatentable over Chung et al (US 6,836,070) in view of Otto et al (US 5,643,638).

Chung teaches an electro-luminescent display with a substrate comprising an anode, and a cathode, and a barrier layer protective layer. A transparent sealing structure is glued to the top of the substrate wherein the transparent sealing structure has an adhesive layer glued to the protection layer, a plurality of organic resin layers formed on the adhesion layer, a plurality of inorganic barrier layers disposed between the organic resin layers, a flexible polymer film formed on the organic resin layer, and a

Art Unit: 1794

hard coat formed on the flexible polymer layer (abstract). Herein the flexible polymer layer and the substrate are understood to read on the claimed “first” and “second” polymeric substrate layers. The organic layers are herein understood to read on the claimed organic polymer materials. The inorganic barrier layers are herein understood to read on the claimed inorganic material and may comprise metal oxides or nitrides (col 3, lines 39+).

Chung does not teach that the composition of the organic and inorganic layers should vary substantially continuously across the thickness of the composite. However, Otto teaches a method of producing a gradient layer (abstract) comprising organic and metal materials (col 4, lines 22+). Said coatings allows the user to vary the characteristics of the coating, better adherence and hardness (col 1, lines 18+) and which can be produced quickly (col 2, lines 33+). Thus, it would have been obvious to the skilled artisan at the time the invention was made to utilize the method taught in Otto to make the alternating organic/barrier layers taught in Chung. The motivation for doing so would have been to improve adhesion, reducing processing times, and allow for better control over the film’s characteristics.

3. Claims 1, 4-8, and 11-14 are rejected under 35 USC 103(a) as being unpatentable over Graff et al (US 6,492,026) in view of Otto et al (US 5,643,638).

Graff teaches a high temperature substrate comprising at least one barrier stack adjacent to the polymer substrate (abstract). The substrate may be coated with additional layers such as scratch resistant layers (col 2, lines 64+) or electrically conductive layers (col 5, lines 1+). There is optionally a second substrate applied to the

Art Unit: 1794

barrier stack on the side opposite the first substrate layer (col 4, lines 57+). The barrier stack comprises barrier layers and polymer layers (col 3, lines 57+). The barrier layers may comprise metal oxides, oxynitrides, nitrides, and the like (col 6, lines 1+). Said alternating layers of polymers and barrier layers are herein understood to read on the “diffusion inhibiting barriers.” The polymer layers are acrylate polymers (claim 10). Said barrier may be utilized with LEDS, LEPs, ED, LCDs and the like (col 2, lines 3+). When utilized, said devices are disposed between a pair of electrodes.

Graff does not teach that the composition of the organic and inorganic layers should vary substantially continuously across the thickness of the composite. However, Otto teaches a method of producing a gradient layer (abstract) comprising organic and metal materials (col 4, lines 22+). Said coatings allows the user to vary the characteristics of the coating, better adherence and hardness (col 1, lines 18+) and which can be produced quickly (col 2, lines 33+). Thus, it would have been obvious to the skilled artisan at the time the invention was made to utilize the method taught in Otto to make the alternating organic/barrier layers taught in Graff. The motivation for doing so would have been to improve adhesion, reducing processing times, and allow for better control over the film’s characteristics.

4. Claims 1, 4-5, 7, 8, and 11-15 are rejected under 35 USC 103(a) as being unpatentable over Silvernail (US 6,576,351) in view of Otto et al (US 5,643,638).

Silvernail teaches an organic photoelectronic device structure and a method of making the same. The structure comprises a first barrier resin comprising a first composite stack and a second composite layer stack attached to the first composite

Art Unit: 1794

layer stack (abstract). The composite layer stack comprises a first polymer substrate layer, at least one first planarizing layer and at least one first high-density layer, while the second composite layer stack similarly comprises a second polymer substrate layer, at least one second planarizing layer and at least one second high-density layer (abstract). Preferably, the stacks will comprise two or more planarizing layers and two or more high density layers (col 2, lines 41+). The planarizing layers comprise fluorinated polymers, polyacrylates, and the like. The high density layers comprise metal oxides, nitrides, carbides, and oxynitrides. Said multi-layer barrier stacks are herein understood to read on the "diffusion inhibiting barriers." The substrate layers comprise polyolefin, polyimide, polyethersulphone, and polyester (col 2, lines 53+). The substrates are arranged such that the stacks are between said substrates (col 2, lines 26+).

Silvernail does not teach that the composition of the organic and inorganic layers should vary substantially continuously across the thickness of the composite. However, Otto teaches a method of producing a gradient layer (abstract) comprising organic and metal materials (col 4, lines 22+). Said coatings allows the user to vary the characteristics of the coating, better adherence and hardness (col 1, lines 18+) and which can be produced quickly (col 2, lines 33+). Thus, it would have been obvious to the skilled artisan at the time the invention was made to utilize the method taught in Otto to make the alternating organic/barrier layers taught in Silvernail. The motivation for doing so would have been to improve adhesion, reducing processing times, and allow for better control over the film's characteristics.

***Response to Arguments***

Applicant's arguments have been fully considered but are moot in view of a new grounds of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN R. KRUER whose telephone number is (571)272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kevin R Krue/

Primary Examiner, Art Unit 1794